



CONNECTICUT TEACHER TECHNOLOGY COMPETENCIES

2001



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Introduction

The 21st Century is here. More and more, the literate citizen is expected to use technology to access, analyze and communicate information by knowing how to manage electronic information from an ever-widening array of resources and in a wide variety of formats. One must be proficient in using a variety of technology tools to solve problems, make informed decisions, and generate new knowledge. And the development of these skills is the responsibility of the schools and their instructional staff. Yet many of our educators lack the necessary skills themselves to be comfortable in playing a leadership role in the integration of technology into Connecticut's classrooms. In fact, the role of the classroom teacher needs to change significantly as technology is used in a more widespread manner in instruction. The following chart highlights these changing responsibilities and opportunities.

Role	Changing Responsibilities/Opportunities
As A Mentor	<ul style="list-style-type: none">• Becomes guide on the side rather than sage on the stage• Operates as fellow explorer and collaborator• Views cybrarian as a resource guide• Models best practices• Models constructive observation• Models active and interactive learning• Challenges learners with high expectations and authentic projects
As A Model	<ul style="list-style-type: none">• Models ethical practices and legal use of information and technology resources• Models the love of life-long learning• Models team work and collaboration• Models innovative practices and “thinking outside the box”
As A Motivator	<ul style="list-style-type: none">• Provides relevancy such as school-to-career opportunities• Provides feedback and opportunities to enhance student improvement• Assigns projects with many opportunities for learning and growth• Links students with resources that assist them with their educational goals
As A Manager	<ul style="list-style-type: none">• Provides an opportunity for all students to be successful• Gives students the opportunity to take greater responsibility for their own learning• Provides assessment information to monitor student progress

The promotion of high standards for students and professional educators has been an integral component of Connecticut's reform agenda since the mid-1980s. The State Department of Education is committed to ensuring that our high expectations for students are matched by high expectations for teachers, administrators and other school staff members, and that the success of Connecticut's initiatives for professional educators are judged on the basis of their effect on improving student learning.

Central to all of Connecticut's recent efforts to improve the quality of teaching and administration has been the re-examination of what constitutes effective teaching practice given the higher expectations we have for students and recent advances in research about learning and teaching practices that lead to enhanced student learning. In 1999, the State Board of Education adopted the *Common Core of Teaching* (CCT). The CCT describes the expectations and understandings teachers must have about their own professional knowledge and practice, their students and the evaluation of student learning over time. It contains foundational skills and competencies common to all teachers from pre-kindergarten through Grade 12 as well as discipline-based professional standards. The foundational skills and competencies reflect what needs to be infused into the entire curriculum because of its extraordinary potential for enhancing learning.

In recognition of the growing need for all teachers to be able to integrate technology into the curriculum, the CCT has included several concepts under Foundational Skills and Competencies:

I.4. Teachers understand the central concepts and skills, tools of inquiry and structures of the discipline(s) they teach by:

- b. learning about and using computer and information technology as an integral part of teaching their discipline(s)
- c. knowing and utilizing national and state standards within their disciplines(s)
- d. being aware of the evolving nature of subject-matter knowledge and the need for keeping abreast of new ideas and understandings within one's discipline, including the impact of technology and information sources on the nature of teaching, communications and the development of knowledge.

II. 1. Teachers plan instruction based upon knowledge of subject matter, students, the curriculum and the community by:

- b. selecting appropriate materials—including a wide range of technological resources—to help students find information, interpret the quality of sources, and effectively synthesize and communicate information

II. 4. Teachers create instructional opportunities to support students' academic, social and personal development by:

- b. employing techniques that address a variety of learning styles as well as incorporate a wide range of community and technology resources

In 1999, the State Department of Education updated its Guidelines for Teacher Evaluation and Professional Development. The new guidelines were designed to build upon the contents of the CCT as well as the *Common Core of Learning* and the *K-12 Curricular Goals and Standards*. These documents are to be used as the foundation for teacher evaluation and professional development, establishing a critical link between effective teaching and increased student learning.

Meanwhile, national guidelines have further defined the scope and sequence of teacher skills and competencies. In 1999, the International Society for Technology in Education (ISTE) published *National Educational Technology Standards and Performance Indicators for Teachers*. ISTE has delineated six standards with their own performance indicators to establish guidelines on the skills and competencies educators should acquire:

1. Technology Operations and Concepts – teachers demonstrate a sound understanding of technology operations and concepts
2. Planning and Designing Learning Environments and Experiences – teachers plan and design effective learning environments and experiences supported by technology
3. Teaching, Learning and the Curriculum – teachers implement curriculum plans that include methods and strategies for applying technology to maximize student learning
4. Assessment and Evaluation – teachers apply technology to facilitate a variety of effective assessment and evaluation strategies
5. Productivity and Professional Practice – teachers use technology to enhance their productivity and professional practices
6. Social, Ethical, Legal and Human Issues – teachers understand the social, ethical, legal, and human issues surrounding the use of technology in preK-12 schools and apply that understanding in practice

In light of these guidelines and the National Standards for Technology in Teacher Preparation as adopted by the National Council for Accreditation of Teacher Education (NCATE), the *Connecticut Teacher Technology Competencies* have been developed. The Teacher Technology Competencies are a set of technology standards that define proficiency in using technologies in the classroom. The competencies are grouped under four standards:

- I. Educational Technology Concepts and Operations
- II. Creating Learning Environments and Experiences
- III. Productivity and Professional Practice
- IV. Social, Legal, Ethical and Human Issues

Each standard consists of specific competencies with three levels of skills that grow in complexity as the educator moves from the Initial Level to the Proficient Level. It is envisioned that these competencies will serve as building blocks to attain the goal of developing an exemplary system of educational technology that combines pedagogical integrity with real-world relevance, fostering a teaching and learning culture in which technology is considered a basic tool. Educators will possess the technical competence that enables them to enjoy the benefits of technology, understand its infinite potential, and look forward to new technological practices and products for improving the quality of students' learning experiences.

There are three levels of competency:

- **Level I – Initial:** This level indicates that the educator has a level of awareness of the potential uses of educational technology. This is the stage when the educator first begins to experiment and use technology in the classroom at a basic level for discrete lessons.
- **Level II – Developing:** This level indicates that the educator is increasingly aware of using technologies to enhance student learning. The educator now incorporates technologies into the classroom on a daily basis, using the technologies for teaching, learning, classroom management, assessment and a variety of other uses.

- **Level III – Proficient:** This level indicates that the educator is a leader in the use of technology. The use of technology by student and educator is ubiquitous, with a planned, systematic, ongoing and integrated curriculum in place. A major paradigm shift has occurred in the way information and technology literacy is used to create an authentic learning experience that enhances learning for every student.

All educators over the course of several years are expected to reach Level II so that in all classrooms all students will be using technologies as a daily resource. Leadership in the integration of technologies will reach Level III. It is expected that districts address the attainment of skills through their evaluation process in order for all teachers to become skilled in developing lesson plans that incorporate technology.

The Competencies are closely linked to statewide professional development activities. The *Educational Technology Course of Studies* has been developed by the Alliance of Regional Educational Service Centers. The course of studies is designed as an introduction to a variety of offerings for Connecticut educators who want to pursue the development of practical skills and knowledge related to the integration of technology that supports student performance. The abstract of each module provides a brief description of the learner outcomes and the technology competencies addressed.

It is recognized that educators have varied levels of experience with technology and that they need options that provide appropriate entry points for professional development. The *Connecticut Teacher Technology Competencies Performance Indicators* serve as a self-assessment tool for teachers. The *CTTC Performance Indicators* acts as a “road map” for teachers wanting to improve their own technology skills. By completing the form and checking those competencies with which they are familiar, teachers can determine what specific skills they currently have and what skills they need to continue learning through additional training or practice.

There is no turning back. The Technology Age is here with far-reaching implications, especially for education. The educational community must embrace technology instead of being intimidated by it. And for that to occur, educators must be on the front lines to accept and use the technologies that are available.

The good news is that both State and Federal funding have allowed the partnership of the Connecticut Department of Education and the Alliance of Regional Educational Service Centers to develop and implement a comprehensive program for professional development. But it is up to the individual educator to take advantage of the opportunities that exist. And it is up to the administrator to encourage—even require—his/her professional staff to participate in these programs to create a technologically rich learning environment for all of our students.

I. Educational Technology Concepts & Operations

To use technology as a meaningful learning tool, educators must be aware of and understand its potential and advantages. Classroom strategies must be developed to foster the integration of technology for all grade levels in all content areas by all teachers for every student.

Competency	Initial	Developing	Proficient
A. Demonstrate an understanding of research and potential applications of educational technology in learning.	<p>Be aware of and identify technologies needed to structure effective learning environments.</p> <p><i>Example: Be aware and identify technology tools; lesson plans; and software for specific content area.</i></p>	<p>Use a variety of tools that support teaching, learning and research.</p> <p><i>Example: Use current research and training opportunities to provide insight into integrating technology into the curriculum.</i></p>	<p>Demonstrate a continual growth in using technology for teaching and learning through professional practice.</p> <p><i>Example: Develop ongoing projects which use technology in enhancing learning outcomes and share with colleagues.</i></p>
B. Demonstrate an understanding of organizational issues related to the application of technology in education.	<p>Work with staff to identify, acquire and use technology to support learning outcomes.</p> <p><i>Example: Find out what supports—human and resource—are available, and develop a plan to use them.</i></p>	<p>Discern how technology enhances the role of the teacher, both as a teacher and a learner.</p> <p><i>Example: Apply skills obtained through ongoing professional development to improve learning; adopt different teaching strategies as technology is integrated.; integrate a wide variety of available low tech and peripheral hardware (e.g. digital cameras, scanners, probes, video and assistive technologies).</i></p>	<p>Serve as a model for how technology is changing the roles and responsibilities of educators.</p> <p><i>Example: Take a leadership role by demonstrating to colleagues how technology can improve learning outcomes; have students investigate authentic problems using technologies.</i></p>
C. Apply problem solving strategies to issues involving teaching and learning with technology.	<p>Demonstrate basic troubleshooting strategies while using technology.</p> <p><i>Example: Find out where to obtain timely technical assistance; articulate problem to relevant resource person; be able to correct minor/daily technology problems.</i></p>	<p>Use troubleshooting strategies to alleviate technology related problems.</p> <p><i>Example: Effectively explain problems to support team and implement suggestions; provide support materials for students to minimize user error and improve performance.</i></p>	<p>Apply advanced troubleshooting strategies.</p> <p><i>Example: Develop backup plans for teaching and learning when things go wrong; implement technology pre-lesson setups which require technical expertise (i.e. entering student data, and individualizing lessons).</i></p>

Competency	Initial	Developing	Proficient
D. Demonstrate an understanding of network capabilities and electronic communications.	<p>Recognize the benefits of using networks for teaching and learning.</p> <p><i>Example: Learn how to back up and share documents and store classroom materials on the network.</i></p>	<p>Make effective use of network resources to enhance instruction.</p> <p><i>Example: Use the network to store student projects; provide alternate formats to deliver instructional units to students such as telecommunications and intranets.</i></p>	<p>Use network to create new teaching and learning practices.</p> <p><i>Example: Publish or prepare Web pages to post student or parent resources; provide lesson information in a variety of formats which can be accessible by students and parents.</i></p>
E. Demonstrate an understanding of emerging technologies.	<p>Recognize the impact of emerging technologies on education.</p> <p><i>Example: Identify resources for staying current in applications of computing and information technologies in education.</i></p>	<p>Identify new tools available to support teaching and learning.</p> <p><i>Example: Integrate emerging technologies into classroom curriculum; utilize professional development opportunities to learn about new technologies.</i></p>	<p>Articulate new possibilities for teaching and learning.</p> <p><i>Example: Research feasibility of acquiring new technology tools and work with district to acquire state-of-the-art technologies.</i></p>

II. Creating Learning Environments and Experiences

When technology becomes part of the learning environment, the roles of teachers and students change, activities become more project-based, and student-directed learning occurs. As new styles and means of learning evolve, educators need to develop new ways of managing learning tools, classroom time, information, curriculum and assessment.

Competency	Initial	Developing	Proficient
A. Create learning experiences that align with prekindergarten – grade 12 computer technology competency standards for students and best practices.	<p>Experiment with different technologies to address state content and technology standards and frameworks.</p> <p><i>Example: Integrate technology into classroom activities or lessons that are aligned to student competencies and content standards.</i></p>	<p>Use technology to provide practices and programs that contribute to the achievement of state content and technology competencies by all students.</p> <p><i>Example: Integrate content area software and develop technology applications that are aligned with competencies and standards.</i></p>	<p>Work with the school community to develop activities that align with state content and technology standards to promote effective technology use.</p> <p><i>Example: Participate in content area tasks on committees to assist with technology and standards alignment.</i></p>
B. Create new learning environments and develop new roles of teacher and learner.	<p>Create a well-designed lesson that incorporates technology.</p> <p><i>Example: Practice using technology in a variety of instructional settings with a variety of methods of instruction.</i></p>	<p>Develop and deliver effective instruction by regularly integrating technology into the curriculum.</p> <p><i>Example: Create lessons which allow active participation by students in a variety of instructional settings; use technology to support individualized exploration.</i></p>	<p>Create a learning community whose members learn and teach each other using technology as a vehicle.</p> <p><i>Example: Create a student-centered learning environment that is active, exploratory, and authentic inquiry-based learning</i></p>
C. Manage the use of technology in the classroom for learning.	<p>Provide access to technology for sustained student inquiry.</p> <p><i>Example: Develop alternatives for grouping and scheduling.</i></p>	<p>Restructure learning environment to provide flexibility and promote inquiry based learning.</p> <p><i>Example: Create a team-based instructional environment where there are leadership roles in student organized activities.</i></p>	<p>Create an environment that models the seamless use of technology for teaching and learning.</p> <p><i>Example: Establish and support a technology-infused learning environment, ensuring that resources are available when needed to all students.</i></p>

Competency	Initial	Developing	Proficient
D. Use technology resources to better assess and understand students' needs and abilities in order to improve instructional practice and maximize student learning.	<p>Demonstrate an understanding of using technology for assessing and improving student learning.</p> <p><i>Example: Learn how to collect and analyze data for the purpose of student assessment.</i></p>	<p>Use technology to assess and improve student learning, and support student and teacher self-assessment.</p> <p><i>Example: Apply effective instructional and assessment practices using a variety of assessment tools which analyze learning of content with technology; incorporate a system of electronic record-keeping for accuracy and immediate feedback; create electronic projects such as portfolios which exhibit student work.</i></p>	<p>Use technology to incorporate data-driven decision making methods that consistently assess learning.</p> <p><i>Example: Use student assessments obtained by varied methods for multiple purposes, including the revision of learning methods as a result of assessment data collection.</i></p>
E. Use technologies to support student-centered learning strategies for all students.	<p>Use basic computer skills (opening, filing, saving, navigating, etc.) in conjunction with various hardware, software and learning devices.</p> <p><i>Example: Learn about and determine how to use the varied devices available to assist students with special needs.</i></p>	<p>Assess, model and integrate appropriate hardware, software, and learning devices which assist student learning.</p> <p><i>Example: Develop, design and implement instructional activities for a diverse student population that integrates technologies responding to individual and group needs.</i></p>	<p>Design learning environments which individualize instruction.</p> <p><i>Example: Incorporate technology while considering the diverse needs of all students, including factors such as diverse languages, physical and learning challenges.</i></p>

III. Productivity and Professional Practice

Using technology, teachers are able to improve their productivity and professional practice. While creating electronic documents, they can consider a variety of purposes and audiences, and effectively share information locally and globally. Through the use of educational technology, teachers can present and assess student work and communicate more easily with parents.

Competency	Initial	Developing	Proficient
A. Use educational technology to Communicate/collaborate with the community.	<p>Create instructional materials, communications and assessment tasks.</p> <p><i>Example: Communicate through memos and letters; use rubrics to judge student work.</i></p>	<p>Use technology to create professional products.</p> <p><i>Example: Create electronic exhibits of student work; use brochures to inform parents; communicate with community with multimedia presentations.</i></p>	<p>Apply technology tools to increase productivity and to expand communication with diverse communities.</p> <p><i>Example: Incorporate distance learning opportunities.</i></p>
B. Use online resources to communicate/collaborate with the learning community and the global community.	<p>Apply basic networking and Internet knowledge.</p> <p><i>Example: Learn to use e-mail and learn to use a web browser to search the Internet for curriculum related information.</i></p>	<p>Use the school network and the Internet effectively.</p> <p><i>Example: Use Web resources to explore educational resources to find lesson plans and/or teacher materials.</i></p>	<p>Apply online resources to increase productivity and professional practice.</p> <p><i>Example: Design authentic learning activities using email or telecollaborative project sites to communicate with other students and experts.</i></p>
C. Use technology to collect and manage data related to teaching and learning.	<p>Identify and learn to use programs that enhance data collection.</p> <p><i>Example: Use spreadsheets and databases to create student management systems.</i></p>	<p>Use appropriate applications to collect and manage data.</p> <p><i>Example: Teach students to create and use databases to collect, organize, analyze data, and produce meaningful reports to answer questions about their information.</i></p>	<p>Collect and use data related to teaching and learning to make decisions and build knowledge.</p> <p><i>Example: Analyze the use of databases to collect, organize and analyze data compared to or combined with traditional methods of data collection.</i></p>

Competency	Initial	Developing	Proficient
D. Identify, use and evaluate technologies to support the learning process for all students.	<p>Learn applications and skills that promote new technology-based practices in the classroom</p> <p><i>Example: Participate in ongoing professional development activities to gain application skills and reflect on professional practices.</i></p>	<p>Align new skills with curriculum strategies for integration, and share ideas and resources with colleagues.</p> <p><i>Example: Use and evaluate different types of educational software and electronic resources.</i></p>	<p>Experiment with new concepts and pilot new practices.</p> <p><i>Example: Facilitate ongoing professional development activities that look at the characteristics of learners and the nature of the learning task and how that influences the selection and use of technology.</i></p>

IV. Social, Legal, Ethical and Human Issues

Key issues arise when technology is put into the hands of educators and students in the school setting. These issues have been the catalyst for acceptable use policies for teachers and students as well as the basis for discussions related to equity and access. Attending to these issues is fundamental to the use of technology in an educational setting.

Competency	Initial	Developing	Proficient
A. Understand, model and teach the legal and ethical practices regarding information and educational technology.	<p>Demonstrate an understanding of the legal & ethical issues related to information and educational technology.</p> <p><i>Example: Adhere to copyright laws, rights, responsibilities and license agreements; understand and adhere to district and state policies and practices; monitor students when using technology.</i></p>	<p>Teach and model ethical practices to members of the learning community.</p> <p><i>Example: Model behaviors inside and outside the classroom that promote equitable, ethical and legal use of computers and related technologies (Netiquette); teach students about care and use of equipment.</i></p>	<p>Promote ethical and legal use.</p> <p><i>Example: Design and facilitate learning activities for school/district about copyright laws concerning information and computer software and the importance of equitable access to information technology.</i></p>
B. Model and teach safe, healthy practices of technology use.	<p>Demonstrate an understanding of the proper use of technology.</p> <p><i>Example: Learn about ergonomics, equipment disposal and online safety.</i></p>	<p>Make adjustments to the learning environment to assure healthy and safe use of technology.</p> <p><i>Example: Implement ergonomics standards, ensure that equipment is disposed of properly and ensure students use prudence when accessing online sites.</i></p>	<p>Advocate healthy and safe use of technology.</p> <p><i>Example: Assist in the development of district policies for the healthy and safe use of technology.</i></p>
C. Use technology to enable and empower learners with diverse cultures, characteristics, abilities and socio-economic backgrounds.	<p>Demonstrate an understanding of providing equal access.</p> <p><i>Example: Learn about the variety of adaptive assistive devices available for students with special needs.</i></p>	<p>Provide equal access for all students by adjusting instruction and implementing strategies that enable and empower all learners.</p> <p><i>Example: Provide appropriate learning opportunities and equitable access for all students, using specialized equipment for students with special needs.</i></p>	<p>Research options and make recommendations to meet the identified needs of all learners.</p> <p><i>Example: Determine the effectiveness of adaptive assistive devices in the integration of special needs students into the regular classroom; be able to locate and use multicultural resources available through different resources such as the WWW.</i></p>

Terms and Definitions

Acceptable Use Agreement: A form that is signed by an individual, and when appropriate, legal guardian/parent, that acknowledges responsible behavior and use for the technology provided by the district, including legal implications of the use of the Internet.

Adaptive technology: Devices that help people with visual impairments, hearing losses, severe speech impairments, physical disabilities and/or severe learning disabilities cope with demands that are placed upon them from their environment.

Administrators: Building principals, central office administrators, department chairpersons and coordinators.

Alignment: The process of linking content and performance standards to assessment, instruction, and learning in classrooms.

All students: Learners, regardless of gender, socio-economic status, culture, disabilities etc.

Applications: Programs (software) and their related uses. (May be more generic, i.e. desktop publishing vs. Publisher 97.)

Assistive technology: Any item, piece of equipment or product system, whether acquired commercially off the shelf, modified, or customized, that is used to increase, maintain or improve the functional capabilities of children with disabilities. (Federal Register, August 19, 1991, p. 41272.)

Authentic problems: A problem that is meaningful because it is one with which an individual may be confronted with in real life terms. A student is asked to resolve a problem they might really have to face in the course of their lives by applying certain knowledge and/or skills to situations they may encounter.

Content Standards: Statements about what students should know and be able to do in various disciplines such as Language Arts, Mathematics, Science, Social Studies, the Arts.

Copyright: Intellectual property rights that are guaranteed by the U. S. Constitution and Federal law. These protect the individual who produces creative works from the theft of their work by others. Fair Use Guidelines provide limited privileges to educators. The legal citation can be found at: <http://cweb.loc.gov/>.

Database: A collection of data arranged into categories. These can then be manipulated by the user to create reports.

Database Management: A collection of programs that enables you to store, modify and extract information from a database.

Data-Driven Decision Making: The process of modifying instructional strategies based on data such as student achievement, test scores and other information.

Desktop publishing: Programs that enable the user to use a microcomputer and a laser printer to produce relatively high-quality publications.

Digital Camera: A hardware product that captures an image and sends it to a computer.

Distance learning: The use of telecommunications technologies, including satellites, telephones and cable-television systems, to broadcast instruction from one central site to one or more remote locations. Typically, a television image of a teacher is broadcast to students in remote locations. Students may view and participate in lectures from various locations or on an individual basis. This may also be done using interactive videoconferencing. School districts frequently use distance learning so one teacher can teach to students in more than one school at once.

Electronic exhibits: A display of student work stored on the computer. A collection of these works comprise a student portfolio.

Electronic record keeping: Methodical approach to collecting, recording and storing data with easy access to data for the purpose of reporting and problem solving.

Email: The electronic transmission of letters, documents, messages and memos from one computer to another over a network.

Emerging technologies: New forms of hardware, software and peripherals that are appearing. For example, a hand-held device (PDA) using voice recognition software may be extremely innovative during the year 2000, but commonplace by the year 2003.

Ergonomics: Science of body positioning to reduce physical, mental and emotional stress on the individual usually through the healthy arrangement of equipment, furniture and environment.

Hardware: the electrical and mechanical equipment used in telecommunications and computer systems. Contrasted with software, the programs and files that run in the equipment.

Human issues: Issues that impact the people working in the learning community. They may include interpersonal communication and group dynamics.

Input devices: Any machine that feeds data into a computer.

Internet: A global communications network that is a collaborative effort among educational institutions, government agencies, various commercial and nonprofit organizations, and individual users. The Internet allows three primary functions: communications (email and news), retrieval of information and transferring files (FTP).

Intranet: The term used for the implementation of Internet technologies within an organization to enhance the organization's operation, efficiency and development by providing all organizational resources to each person's desktop.

Learning community (school community): This includes all participating members who are accountable for student learning, such as students, teachers, support staff, administrators, parents and the community at large.

Learning environments: Any arrangement of space and equipment that allows for modification of instructional practice.

Multimedia: Work assembled using elements from more than one medium, such as images, sounds, video and text.

Multiple intelligences: Howard Gardner's new view of intelligence that not only include verbal and computational intelligence but expands the capacity to solve problems or fashion products that are valued to include special, musical, bodily-kinesthetic and personal intelligences.

Netiquette: Equitable, ethical and legal use of computers and related technologies.

Network: Two or more computers that are connected so that they can share storage devices, peripherals and applications. Typically, the network consists of computers, terminals, and other devices and the hardware and software that enable them to exchange data resources. Networks may be connected directly by cable connection or indirectly by telephone lines or satellites, and can be part of a small-office system or global web of numerous other networks.

Online: Turned on and connected.

Online resources: Includes documents, activities, lesson plans, graphics and other multimedia resources, listservs, tutorials and other resources that educators find useful.

Output devices: Any machine capable of representing information from a computer such as display screen, printer or synthesizer.

Peripheral hardware: A device that can communicate directly with a computer, such as printers, scanners, cameras, CD-ROMs and laserdisc players.

Portfolios: A systematic and purposeful collection of a variety of materials related to student learning serving as an instructional and an assessment tool. The portfolio contains samples of student work that teachers and parents can reflect on to determine a student's developmental status and progress over time.

Rubrics: Scoring criteria based on descriptions of what to look for in a student response to an open-ended question.

Software: The instructions that tell a computer what to do.

Spreadsheets: Computer programs that allow the creation and manipulation spreadsheets electronically. Each value sits in a cell. Data can be defined in each cell and how different cells depend on one another. The relationships between cells are called formulas, and the names of the cells are called labels.

Staff: Any person employed in the school, including teachers, para-professionals, administrators and support staff.

Technology tools: Any piece of technology that can be used to enhance instruction or learning. In addition to computer hardware, software and peripherals, this includes items such as audio and video recording devices, projection systems, overheads, and calculators.

Troubleshooting: To isolate the source of a problem and fix it. With computers the term is usually associated with problems suspected to be hardware related.

Video conferencing: A discussion made possible by electronic communications between two or more people in different locations. Participants view each other on screens; real-time sound and video is transmitted between locations via the network. Multipoint videoconferencing allows three or more participants.

Web browser: An application (such as Netscape Navigator or Microsoft Internet Explorer) that locates and displays a web page, allowing the user to interactively jump from place to place by selecting highlighted text or graphics.

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Organizations

Connecticut LEAs

Connecticut State Department of Education

Connecticut Regional Education Service Centers: ACES, CES, CREC, Education Connection, EastConn, LEARN

RESC Alliance Technology Councils

- *As part of the development of the Connecticut Teacher Technology Competencies, our work was aligned with the International Society for Technology in Education (ISTE) and their publication, **The National Educational Technology Standards for Teachers**. © 2000, ISTE. Permission granted per ISTE Managing Editor, Jennifer Roland. Please refer to this publication for more information on national standards.*